

## **CHAPTER OVERVIEW**

This chapter will explain briefly some health issues a fetus may experience as a result of drug exposure.

### **Why is prenatal drug exposure a problem?**

Because of their chemical dependency and lack of information about prenatal care, pregnant substance abusers are more likely than other women to have poor nutrition before and during the time they are pregnant. Many women also smoke cigarettes; the number one cause of poor birth outcome is smoking. Physical and sexual abuse of children with parents addicted to either alcohol or opiates is as high as 22% in one study of 200 families. If neglect was included, the incidence rose to 40%. Parents who must devote a major portion of their energy and financial resources to their habit have less left over for the child. Violence, disorganization and criminality in the family are more common. All of these factors compromise maternal health and place the developing fetus at risk.

## **CHARACTERISTICS OF CHEMICALLY INVOLVED PREGNANT WOMEN**

- Mid to late 20's;
- Low self-esteem;
- Poor self-concept;
- Limited family support;
- Long history of violent or unhealthy relationships;
- Likely to be victims of early sexual or physical abuse;
- Limited education;
- Frequently unemployed;
- No job skills;
- Problems maintaining adequate stable housing;
- Little prenatal care and/or health problems;
- Poor parenting skills;
- Background of dysfunction/chemically dependent families;

- Need for a wide range of services;
- Poly drug use; and
- Mental health problems.

Not all infants show the same effects from prenatal exposure to alcohol and other drugs. Effects depend upon the genetic factors, maternal health, access to health care, chemicals used, patterns of use, duration of use and health care received. The following characteristics have been observed in infants exposed prenatal:

- Intrauterine growth retardation;
- Prematurity;
- Low birth weight;
- Shorter than average height;
- Smaller head circumference;
- Genito-urinary malformations;
- Bone/skeletal defects;
- Missing fingers or toes;
- Cerebral infarctions;
- Apnea;
- Upper respiratory infections;
- Asthma, allergies;
- Tremors;
- Seizures;
- Fevers;
- Sweating;
- Tearing;

- Frequent yawning;
- Hypertonic;
- Hypotonic;
- Hyperactive or hypoactive reflexes;
- Visual difficulties;
- Sleep abnormalities;
- Eating difficulties;
- Easily over-stimulated;
- Difficulty in consoling or comforting;
- Lethargy; and
- Low score on Brazelton Neonatal Behavioral Assessment.

Withdrawal can continue for weeks or months, damaging parent-infant bonding, as well as the baby's cognitive and social development. Perhaps the saddest effect is the high incidence of second generation abuse, violence, and addiction when addicted parents raise children.

### **What drugs are harmful to the fetus?**

The drugs with the most obvious effects are alcohol, cocaine, heroin, methadone, amphetamines, PCP, marijuana, and cigarettes. Cigarette smoking increases the effects of some of these drugs. Multiple drug abuse is the rule rather than the exception.

**ALCOHOL** is the major drug abused in the United States. Damage to the fetus can occur any time during pregnancy. No amount of alcohol is safe. One binge of six drinks can do damage, as can lesser amounts chronically induced. The damage is lessened if drinking stops by the second trimester. The fetal alcohol syndrome occurs in one out of one thousand births in the U.S.; fetal effects are seen in one out of one hundred births.

Fetal Alcohol Syndrome (FAS) consists of growth retardation in both pre and postnatal development (3<sup>rd</sup> percentile) which may never be reversed. This includes low birth weight, short length, and small head circumference. Postnatal failure to thrive is common. Congenital anomalies, such as an absent or indistinct philtrum, a thin upper lip, flattened nasal bridge, abnormally formed ears, small lower jaw, cleft palate, limited

flexibility of joints, epicanthic folds and short, upturned noses may also be present. FAS includes irreparable damage to the central nervous system causing mental retardation in varying degrees, hyperactivity, and learning disabilities. Other conditions children with FAS may face include heart problems, eye anomalies, poor vision and hearing, depressed immune system, and speech problems.

Fetal Alcohol Effects (FAE) are those signs in the infant that have been linked to alcohol use during pregnancy by the mother, but do not meet the diagnosis criteria for FAS. Indicators include:

- Poor motor skills;
- Short attention span;
- Overall performance generally below normal for age;
- Easily distracted, constantly moving;
- Unable to learn in group setting;
- Vision and/or hearing problems;
- Immature social behaviors;
- Delayed speech; and
- Difficulty with syntax, grammar, articulation.

**COCAINE** may be used by as many as one in ten pregnant women. It causes spasm of blood vessels and a rise in blood pressure. There is an increase in placental abruption, premature labor, still births, and babies suffering strokes and bowel infarct in utero. Cocaine has been linked to birth defects including chromosome abnormalities, and kidney and genital deformities. In a few studies, babies were growth retarded.

Postnatal effects include withdrawal symptoms that last longer and have worse tremors, crying and irritability than do opiate-addicted infants.

At two years, babies show fine motor difficulties, and problems with sensory systems such as fear of quick movements, or difficulty controlling their movements. They may also have difficulty with speech and articulation.

**HEROIN/METHADONE** use has been seen to cause growth retardation unrelated to maternal diet or prenatal care in 50% of infants born to addicted mothers. In utero violent kicking can occur if the mother withdraws. Ten percent of infants have chromosome changes. Precipitous births, meconium staining and perinatal asphyxia are

more common. The infant does best if the mother is maintained on methadone and the dose is slowly tapered to less than 20mg.

Classic withdrawal symptoms are seen in 71 to 90% of infants. The symptoms are worse and more prolonged for methadone than for heroin. Hyperventilation, respiratory distress, sneezing, sweating, nasal stuffiness, vomiting and diarrhea, and convulsions may also be present. Methadone babies may have more jaundice and convulsions; heroin less.

Heroin and methadone babies have a five-fold increased risk for Sudden Infant Death Syndrome. Their withdrawal may last for two to six months, interfering with bonding and learning. They may suffer speech and language delays. For the one to two year old child, there may be hyperactivity, brief attention span, and delayed cognitive/perceptual/fine motor skills. Effects on the advanced motor skills are not known.

**MARIJUANA** is used by an estimated 28% of adults between the ages of 18 and 25. Ten percent of those users are women. One study reports that infants born to mothers smoking five joints a day, showed decreased visual response to light, and more tremors, startles, and shrill cries. Chasnoff reports several infants whose mothers used marijuana showed hypotonia and severe developmental delay, but says urine tests showed some marijuana is contaminated with PCP.

**PCP/ANGEL DUST** is inexpensive and easy to manufacture. It was used as an anaesthetic in humans, but now is restricted to veterinary use because of severe personality changes and psychosis. There are reports of three infants with symptoms of withdrawal attributed to PCP: jitteriness, increased tone, vomiting, diarrhea, irritability, fine tremors, coarse flapping movements of the extremities, roving eye movements, nystagmus, poor visual fixation, hyperreflexia, and respiratory distress. These effects are the same as are seen in adult humans, older children and mice exposed to PCP. One infant had microcephaly, and another whose mother smoked five-six PCP laced marijuana cigarettes a day, had dysmorphic features. This infant had Cerebral Palsy at two months follow-up.

The addicted parent needs treatment and the addicted infant needs protection. Most addiction treatment personnel do not evaluate the care of children in the course of their work. Protective service workers, on the other hand, are usually unfamiliar with the treatment of addiction.

**Perhaps the most important goal for the immediate future is to integrate these two areas of knowledge, so that cooperative treatment programs can be developed.**

**There is a need for increased public awareness of effects of drugs on the unborn child, and for uniform protocol for evaluating and treating addicted infants.**

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Sources: This material was adapted from:  
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MEMORANDA HISTORY: